

Rachel Morris, Ph.D. MLT(ASCP)^{CM}
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Education:

Ph.D. Biological Sciences (specialization: Microbiology), 2011 Marquette University, Milwaukee, WI

B.A. Biology, 2007 University of Maine at Augusta, Augusta, ME

A.S. Medical Laboratory Science, 1992 University of Maine at Augusta, Augusta, ME

Research Experience:

Postdoctoral Research Fellow, University of Michigan, Internal Medicine, Feb. 2013-Dec. 2014,
Michigan State University, Aug. 2011- Jan. 2013

Mentor: Thomas M. Schmidt

Research Topic: High-Affinity Terminal Oxidases and Microaerobic Metabolism

Ph.D., Department of Biological Sciences, Marquette University, 2007-2011

Mentor: James S. Maki

Research topic: Relating Methanogen Community Structure to Function in Anaerobic
Digesters

Undergraduate Researcher, Biology Research Laboratory, University of Maine at
Augusta, Augusta, ME 2006-2007

Mentor: Peter Milligan

Research topic: PCR and DGGE protocols for investigating arsenate-reducing bacteria

Post-Secondary Teaching and Administrative Experience

Graduate Program Director, Biomedical Laboratory Diagnostics, Michigan State University, East Lansing,
MI (2016- present)

Academic Specialist-Teaching, Biomedical Laboratory Diagnostics, Michigan State University, East
Lansing, MI (2014- present) Graduate Program Director (2016-present)

Courses: BLD 204 Mechanisms of Disease

BLD 214L Biomedical Research Laboratory Techniques

BLD 302 Clinical Chemistry

BLD 442 Education and Management in the Clinical Laboratory

BLD 434 Clinical Immunology

BLD 456W Medical Laboratory Professionalism

BLD 430L Molecular Diagnostics Laboratory
BLD 460 Advanced Molecular Diagnostics
BLD 805 Communication in the Sciences
BLD 811 Fundamentals of Scientific Research

Lecturer, Michigan State University, East Lansing, MI
Microbial Metagenomics Summer Course, topic: Quantitative PCR (2012)

Guest Online Discussion Leader, University of Colorado at Colorado Springs, Colorado Springs, CO
Course: Psychology of the Gifted: Social-Emotional Needs and Special Populations. (2011, 2012, 2013, 2014, 2015, 2016)

Teaching Assistant, Marquette University, Milwaukee, WI
Courses: Principles of Biological Investigation (2008), Ecology (2009), Biochemistry (2010)

Graduate Student Mentor, Marquette University, Milwaukee, WI
Biological Sciences Undergraduate Summer Research Program (2008)

Related Work Experience:

Educator, Summer 2016, Diligence and Delight Learning Center, Beijing, China
Responsibilities: teaching marine biology/ecology to children ages 4-14 at Beijing Aquarium

Technician, 1991 Smith Clam Depuration Plant, Waldoboro, ME
Responsibilities: monitoring removal of fecal pollution from shellfish

Phlebotomist/Medical Laboratory Technician, 1990-1993 Veterans Administration
Hospital, Togus, ME. Departments: Phlebotomy, Hematology, Pathology, Microbiology

Professional Development:

Strategy Formulation, Copenhagen Business School (Coursera), August 2019

Strategic Management, Copenhagen Business School (Coursera), May 2019

Envisioning the Future of Academic Work at MSU Symposium, April 2019

HUB for Learning Innovation and Technology, Faculty Fellow, 2018-2019

Train the Trainer: Leading Difficulty Discussions, March 16, 2018

Digital Presence Workshop, March 6&7, 2018, MSU Libraries

Adams Academy 2.0 Faculty Learning Community, 2017-2019

Developed and Sent Survey to Teaching Faculty

Trained as Teaching Observer for Faculty

Developed Peer Observation Protocol

Workshop: Creating an Inclusive Classroom, October 24, 2017

MSU Adams Academy for Instructional Excellence and Innovation Fellow, 2016-2017

Strategies and Tools Across Fields: Teaching with Writing, MSU Writing Center, May 15-19, 2017

Committee Service:

Online Program Quality Working Group, Michigan State University, 2019-present
Graduate Program Strategic Planning Group, College of Natural Science, summer 2019
Michigan State University, College of Natural Science, Faculty Advisory Council (secretary) 2018-present
Educator Development Network, Michigan State University, 2018-present
#iTeachMSU Digital Commons Advisory Board, Spring 2018-Spring 2019
Michigan State University, College of Natural Science, Biomedical Laboratory Diagnostics (BLD) Program:
BLD search committees, lab instructor and communications manager positions(2019)
BLD program director review committee, chair (2018)
BLD scholarship committee (2015, 2016, 2017, 2018, 2019)
BLD curriculum revision committee (2016-2017)
BLD clinical microbiology certificate program planning committee (present)
BLD recruitment committee (present)

Professional Service:

American Society for Clinical Laboratory Science, Abstract and Proposal Review Committee (2016-present, presently Vice Chair)
American Society for Clinical Laboratory Science-Michigan, District 1 Representative (2017-2018)

Public Service and Outreach:

- The World's A Web: Discovering the Interconnectedness of Marine Ecology, middle school/high school track, March 2019, Homeschoolers of Maine Annual Convention, Rockport, ME
- **Co-host, Speaking Science Podcast, 2018-present (www.speakingsciencepodcast.com)**
- Reviewer, Graduate Women in Science Fellowships, 2015
- Camp Kesem MSU, advisory board member (2015-2016) and faculty mentor (2016-2017)
- Reviewer, Special Edition of *Microbial Ecology*, August 2015, 2017

Awards and Honors:

- **ASCLS Omicron Sigma- Region IV Award, 2019**
- **ASCLS Omicron Sigma- Region IV Award, 2018**
- **ASCLS-MI Donna Duberg Mentorship Award, 2017**
- **Speece Fellowship**, 2011 Anaerobic Treatment Short Course, Marquette University, Milwaukee, WI
- **Marquette University Fellowship**, 2010-2011 Marquette University, Milwaukee, WI
- **Oliver Smith Academic Achievement Award**, 2009 Marquette University, Milwaukee, WI
- **CAP Student Travel Grant**, 2009 American Society for Microbiology 109th General Meeting
- **Richard W. Jobling Fellowship**, 2009 Marquette University, Milwaukee, WI
- **Distinguished Biology Student Award**, 2007 University of Maine at Augusta, Augusta, ME
- **Celeste Cote Memorial Award**, 1992 University of Maine at Augusta, Augusta, ME

Publications:

- **R.L. Morris**, P.P. Mathai, V.P. Tale, D.H. Zitomer, J.S. Maki. *mcrA* Gene Copy Quantification and Methane Production Rates in Industrial and Municipal Anaerobic Biomass (*Letters in Applied Microbiology*, October 2015).
- **R.L. Morris**, A.E. Schauer-Gimenez, C. Kearney, C.A. Struble, D.H. Zitomer, J.S. Maki. Methyl Coenzyme M Reductase (*mcrA*) Gene Abundance Correlates with Activity Measurements of Methanogenic H₂/CO₂ Enriched Anaerobic Biomass (*Microbial Biotechnology*, January 2014).
- **R. L. Morris** and T. M. Schmidt. Shallow Breathing: Life at Low O₂. (*Nature Reviews Microbiology*, March 2013)

Presentations:**Biology/Post-Secondary Education**

- **Creating and Assessing Authentic Assignments that Align with your Goals**, December 17, 2019, College of Nursing Faculty Retreat, Michigan State University, East Lansing, MI
- **The Human Microbiome in Health and Disease**, November 12, 2019, MSU Human Biology Club, Michigan State University, East Lansing, MI
- **Bioinformatics in the Clinical Lab: What do you need to know? (repeat and update requested)** October 17, 2019, Northeast Laboratory Conference, Portland, ME
- **The Human Microbiome in Health and Disease: Updates from the New Research** October 16, 2019, Northeast Laboratory Conference, Portland, ME
- **New Technologies in Diagnostic Microbiology**, October 16, 2019, Northeast Laboratory Conference, Portland, ME
- **Communicating Science Through Podcasts and Videos**, August 17, 2019, ComSciCon Mi 19, East Lansing, MI (with James Monahan)
- **Basic Bioinformatics for the Clinical Lab: what do you need to know?** October 2018, Northeast Laboratory Conference, Portland, ME
- **MSU Faculty Attitudes Towards Teaching: Reports from the Field**, May 9, 2018, MSU Teaching and Learning Spring Conference, East Lansing, MI
- **Teaching Writing within Your Discipline**, May 9, 2018, MSU Teaching and Learning Spring Conference, East Lansing, MI
- **Clinical Chemistry Review**, April 12, 2018, American Society for Clinical Laboratory Scientists-Michigan Conference, Plymouth, MI
- **Mentoring Millennials in the Workplace**, October 18. 2017, Northeast Laboratory Conference, Portland, ME
- **Closing Keynote: Make it Stick!** February 25, 2017, ASCLS Clinical Laboratory Educator's Conference, Boston, MA (with Kenton Cummins, Janet Oja, and Kathryn Doig)
- **I Speak for the Millennials: Recognizing the Strengths of Your Millennial Students**, February 24, 2017, ASCLS Clinical Laboratory Educator's Conference, Boston, MA (with Mariane Wolfe)
- **Sharing Strategies for Use of Student Teams in MSU Courses**, May 10, 2017, MSU Teaching and Learning Spring Conference, East Lansing, MI (with Kathleen Hoag, Adele Denison, Charlotte Ure, Kendra Spence Cheruvellil, Mariane Wolfe, and Jenahvive Morgan)
- **Database Searches: Bioinformatics as Aids in Assay Development and Diagnosis**, March 31, 2016, American Society for Clinical Laboratory Scientists-Michigan Conference, East Lansing, MI

- **Health and the Human Microbiome**, April 16, 2015, American Society for Clinical Laboratory Scientists-Michigan Conference, Plymouth, MI
- **Bacteria are Your Friends/Adventures in Microbiology**, March 10-11, 2015, University of Maine at Augusta 50th anniversary, Augusta, Maine
- **Anaerobic Biotechnology and qPCR**. December 3, 2010. Regional Environmental Biotechnology Research Group, Milwaukee, WI
- **Relating Methanogen Community Structure to Methane Production in Anaerobic Digesters**. May 2010, Milwaukee Microbiology Society, Milwaukee, WI

Posters:

- **N. Navaratnam, R.L. Morris, J. Maki, D. H. Zitomer. Changes in Microbial Community and Increased Biomethane Production Rate from Anaerobic Digestion of Various Waste Blends**, June 2012. 112th General Meeting American Society for Microbiology, San Francisco, CA
- **U. Bhattad, R.L. Morris, J.S. Maki, C.A. Struble, and D.H. Zitomer. Bioaugmentation Using Anaerobic Biomass and Its Preservation for Future Applications**. International Water Association Conference on Microbes in Wastewater and Waste Treatment, Bioremediation and Energy Production. January 2011, Goa, India
- **R.L. Morris, A. Schauer-Gimenez, U.Bhattad, D. Zitomer, and J.S. Maki. Monitoring Methanogen Communities in Anaerobic Digesters using Quantitative Polymerase Chain Reaction Amplification of *mcrA***, August 2010. ISME-13, Seattle, WA
- **R.L. Morris, A. Schauer-Gimenez, U.Bhattad, J. Boyle, C. Struble, D. Zitomer, and J.S. Maki. Comparison of Methyl Coenzyme M Reductase Gene and mRNA Diversity in Anaerobic Digesters**, May 2010. 110th General Meeting American Society for Microbiology, San Diego, CA
- **A. E. Schauer-Gimenez, R.L. Morris, J.S Maki, C.A. Struble, D.H. Zitomer. Bioaugmentation Aids in the Recovery of Lab-Scale Anaerobic Digesters Exposed to a Toxicant.**, May 2010. 110th General Meeting American Society for Microbiology, San Diego, CA
- **R.L. Morris, A. Schauer-Gimenez, J. Boyle, C. Struble, D. Zitomer, and J.S. Maki. Different Conditions Cause Shifts in Methanogen Community and Methane Production Rates in Digesters**, May 2009. 109th General Meeting American Society for Microbiology, Philadelphia, PA

Certifications:

- Medical Laboratory Technician, American Society of Clinical Pathologists Certification Maintenance Program, March 31, 2019-March 31, 2022

Professional Organization Memberships:

- American Society for Microbiology
- American Society for Clinical Laboratory Science